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## Colombia

Colombia is a major exporter of petroleum and coal and was the seventh largest source of U.S. oil imports in 2000. Colombia aims to boost exploration to preserve its status as a net oil exporter in the future.

*Note: information contained in this report is the best available as of March 2001 and can change.*



### BACKGROUND

Colombia currently is experiencing improved economic conditions after weathering a deep recession in 1999. The country experienced real gross domestic product (GDP) growth of 3.1% in 2000, with further growth of about 4% predicted in 2001. Domestic private consumption, investment, imports, and exports all improved in 2000.

In early 2000, Colombian President Andrés Pastrana announced his "Plan Colombia", which aims to spend \$7.5 billion (\$4 billion from Colombia and \$3.5 billion from the United States and the international community) over three years to resolve conflicts with insurgent groups, fight illegal drug trafficking, modernize Colombian legal and military institutions, and strengthen the economy. The United States has been strongly supportive of Pastrana, with \$1.3 billion committed to Plan Colombia. The country's recurring violence problems, with armed conflict between two main rebel groups and the government, historically have inhibited the growth of private investment. In March 2001, the Colombian government and the

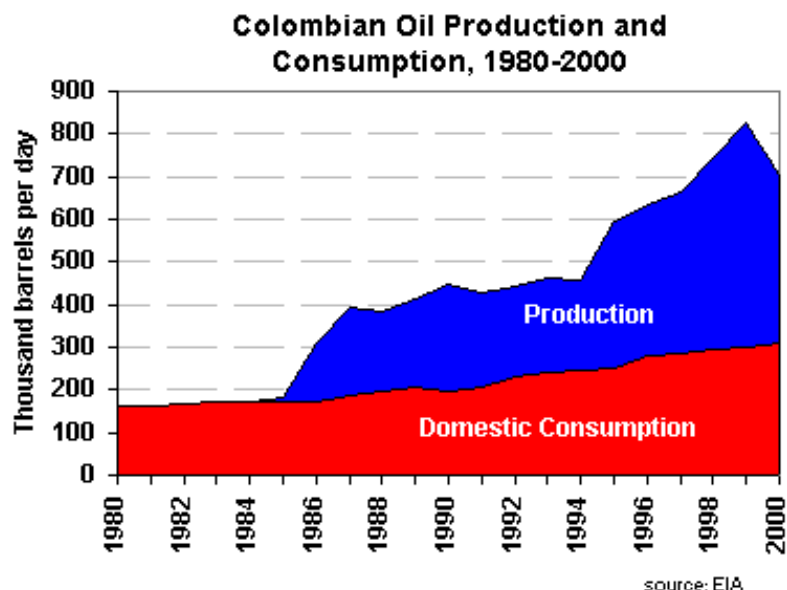
largest rebel group, the Revolutionary Armed Forces of Colombia (FARC), announced that a new 10-country commission of foreign governments will be formed to advise and support a two-year peace process between the two parties.

Oil is Colombia's largest export earner (followed by coffee and coal), generating a reported 35% of government revenues in 2000. The country was the seventh-largest source of U.S. crude oil imports in 2000. However, current oil reserves are projected to last only for about a decade, and some analysts predict that Colombia could become a net oil importer as early as 2004. The volume of petroleum exported in 2000 decreased, although higher world oil prices more than compensated for the lower quantities in terms of export revenues. Encouraging foreign investment in oil exploration and production is a top priority, as much of the country remains unexplored. Coal is also a major export earner, and the industry became fully privatized as of October 2000.



## OIL

Colombia has about 2.6 billion barrels of proven oil reserves, although potential reserves are much larger. Estimates indicate that, without new discoveries, Colombia could become a net oil importer in the medium term. Colombia's oil production declined by 125,000 barrels per day (bbl/d) to 700,600 bbl/d in 2000 after reaching an all-time high in 1999. State oil company Ecopetrol predicts a further decline to 632,000 bbl/d in 2001. Colombia exported 332,000 bbl/d to the United States during 2000 (almost 50% of the country's total production). Colombia's crude oil is lighter and sweeter than that of other major Latin American oil producers.



Current Colombian oil production is located mainly in the Cusiana and Cupiagua fields in the eastern Andes foothills, and in the Cano Limón field in the Arauca province near the Venezuelan border. These fields are expected to account for over 60% of total Colombian production in 2001. The Cusiana and Cupiagua fields are thought to have reached peak production, while Cano Limón, the largest producing field, is nearing depletion. BP, Colombia's largest foreign oil investor, operates Cusiana/Cupiagua. The Cano Limón field is operated by U.S.-based Occidental.

Vast unexplored and potentially hydrocarbon-rich territories remain in Colombia. Most exploration activity has focused on 7 of the country's 18 sedimentary basins, and the country shares many of the geological features of its oil-rich neighbor, Venezuela. Highlighting further exploration potential, Brazil's Petrobras and Occidental discovered a deposit at the Guando field containing reserves calculated at 1.4 billion barrels, 20% to 40% of which is estimated to be recoverable. Discovered in June 2000, the deposit is located in the Upper Magdalena Valley.

In 1999, the government passed legislative reforms intended to attract new investment. The reforms included royalty relief, accelerated environmental licensing, and a reduction in Ecopetrol's participation requirement from 50% to 30%. In positive reaction to these changes, a record of 32 contracts for exploration or incremental production were awarded in 2000, although none to the world's largest multinational companies such as ExxonMobil or Royal Dutch/Shell. Thirteen of these projects were awarded in the bidding round "Ronda 2000," while the remainder were awarded outside the round. Current plans call for future awards to be based on bilateral negotiations rather than bid rounds.

Government officials hope to decide another 30 contracts in 2001, with 12 deals arranged as of March. Companies becoming involved in Colombian oil for the first time in 2001 include Spain's Cepsa, Venezuela's Tecnoil, and Texas's Lone Star; Occidental and Colombia's Geopetrocol are expanding their presence.

Security problems continue to plague the Colombian oil industry, with a record 98 bombings of Occidental's 780-kilometer (480-mile) Cano Limón pipeline in 2000 and more than 35 as of March 2001. The pipeline was out of commission for most of February, forcing the company to declare *force majeure* on February 27. Occidental's main exploration effort apart from Cano Limón is the Gibraltar prospect, located on ground claimed by the native U'wa tribe, which has been the subject of much international protesting and negative publicity over the last year. Drilling is expected to begin in the spring of 2001. Despite these difficulties, Occidental is continuing to explore in Colombia and has confirmed its long-term commitment to the country.

The BP Cusiana/Cupiagua complex's Ocesa pipeline is by far a less frequent target for bombings. While it carries more oil than the Cano Limón pipeline, more of it is underground. The company's wells are occasionally attacked, but problems associated with operating in Colombia have not deterred the company from increasing its investment in the country, with on-going investments totaling over \$3 billion.

The Orito field, located in the Putumayo basin, is one of Ecopetrol's main fields; it is connected to the TransAndino pipeline that originates in Ecuador and reaches port at Tumaco, Colombia. The pipeline has been a target for rebels' bombings much more frequently than the Ocesa, but not quite so often as the Cano Limón. Production



has been seriously stunted in 2001, due to increased frequency of explosions.

### **Refining**

Colombia's current refining capacity is about 285,850 bbl/d, and all refineries are 100% owned and operated by Ecopetrol. Although Colombia is a net oil exporter, it imports gasoline to meet domestic product demand. The government has stated that it will not construct new refineries, and any new construction must be undertaken by the private sector. In October 2000, Ecopetrol selected Shell Global Solutions, an affiliate of Royal Dutch/Shell, to provide technical assistance in a \$22-million program to modernize Colombia's two largest refineries, Cartagena and Barrancabermeja. The modernization program is intended to raise Cartagena's and Barrancabermeja's total gasoline production by 26% to 350,000 bbl/d in anticipation of domestic demand growth and plans for significant exports.

In August 2000, Ecopetrol designed a short-term plan to import heavy oil from neighbors Venezuela and Ecuador, in order to produce lower cost derivatives, such as diesel, solvents and jet fuel at its Cartagena refinery. This would allow the company to export more of its light, sweet crude.

### **NATURAL GAS**

Colombia's proven gas reserves stand at an estimated at 6.9 trillion cubic feet (Tcf), and production (and consumption) in 1999 totaled 183 billion cubic feet (Bcf). Production is centered along the Northern Coast and Barranca regions; other areas of production are in the south and in basins to the east of Bogotá.

Colombia's gas industry is controlled by three key players: Ecopetrol, which manages exploration and development of natural gas reserves; the Energy and Gas Regulatory Commission (CREG), which oversees regulation and distribution markets; and Empresa Colombiana de Gas (Ecogas), a state-owned company tied to the Ministry of Energy, in charge of managing the country's transmission system and operating most transportation pipelines. CREG has segmented the industry into production, transmission, distribution, and marketing sectors.

The year 2000 was not particularly active for the Colombian gas sector. Exploration and production and pipeline expansion continued at a "minimal level," according to the Colombian Association of Natural Gas (Naturgas). Exploration and production investments in 2000 reached only \$5 million. An unattractive legal environment and excessive surcharges explained the low level of investment.

In early 2001, the Colombian Congress was considering legislation to galvanize the sector by de-regulating natural gas prices by 2003. The bill also aims to increase natural gas production for both domestic consumption and exports. Debate about the bill centered on concerns that price deregulation would result in higher prices for domestic consumers. Because there is a monopoly on production, many legislators believe that price regulation is necessary; however, potential new producers will not invest in the sector until prices are liberalized. Colombian gas consumption is insufficient to support significant further development of the country's reserves, so the bill also aims to promote exports. Finally, the bill plans to support increased domestic consumption of natural gas, especially for electricity, to make the largely hydropowered electricity sector less vulnerable to droughts.

Colombia is considering building a gas pipeline to Venezuela, linking its gas-rich Guajira basin to neighboring Maracaibo. Enron affiliate Promigas has been negotiating with the government for two years the possibility of building an export pipeline to Panama. Legislators have proposed more flexible tariff schemes and reduced royalties to get the project off the ground, but the judicial system has overridden the legislators' offers.

Most of Colombia's natural gas currently is produced offshore by Texaco, which has an association contract with Ecopetrol through 2004 and an agreement to continue operating the fields under a build - operate - maintain - transfer agreement until 2016. A Canadian consortium of Millennium Energy and Mera Petroleum finalized a contract with Ecopetrol at the end of January 2000 to explore for oil and gas in the Guajira basin. The companies had been working toward finalization of the contract since the summer of 1997. The Guajira basin produces an estimated 500 million cubic feet (Mcf) per day.



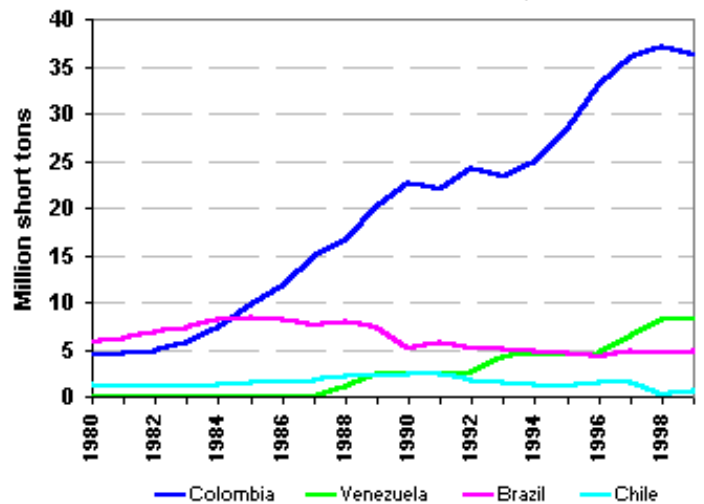
## COAL

Colombia is the largest coal producer in Latin America (see graph), and its reserves consist of high-quality bituminous coal and a small amount of metallurgical coal. Its coal is relatively clean-burning, with a sulfur content of less than 1%. Coal is Colombia's third largest export in terms of revenue, after oil and coffee, and the country is one of the largest coal exporters in the world. Coal exports over the next 5-6 years are expected to increase significantly, and private investment over that period also is slated to increase.

Most of Colombia's coal is located in the Guajira peninsula on the country's Caribbean coast. Trains carrying coal shipments have been subject to fewer attacks than oil and power facilities, and sufficient storage volumes are usually available to avoid any interruptions in exports. A railway connects the Cerrejón and La Loma mines to the port of Santa Marta. Fatal attacks on coal industry personnel in March 2001 prompted renewed concerns about operating in the difficult Colombian security environment.

Coal mines are in private hands. Carbocol, formerly state-held, owns 50% of total output in the massive Cerrejón Norte project, which is the largest coal mining operation in Latin America; the other 50% is held by ExxonMobil's Interco. Carbocol had been slated for years for privatization, and the company was sold in October 2000 for \$383.7 million to a consortium of South Africa's Anglo-American, the UK's Billiton, and Switzerland's Glencore. The consortium was the only bidder and paid the minimum asking price.

South American Coal Production, 1980-1999

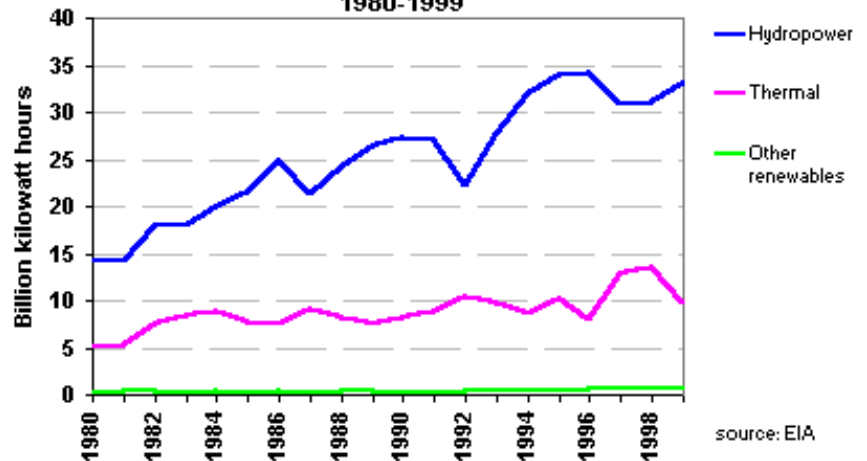


source: EIA

## ELECTRIC POWER

Colombia has electricity generation capacity of 12.8 gigawatts, and typically almost 70% of generation is hydroelectric. Colombia's power sector endured a difficult year in 1992, as a severe drought left hydroelectric plants unable to meet electricity demand and forced power rationing. In the wake of that drought, plans to reform the sector began to form. The construction of coal and natural gas-fired power plants is being encouraged over the medium to long term, and hydropower's share of generation is expected to decline.

Colombian Electricity Generation, 1980-1999



source: EIA

As of March 2001, the Colombian electricity sector is facing serious challenges. Repeated attacks on electric infrastructure by rebel separatist groups are straining the system and causing prices to spiral. Grid interconnections have been blown up, leaving the country divided into several, smaller grids and preventing repair crews from reconnecting the fragments. Distortions in local markets have resulted, as regions that normally export electricity are now cut off from markets where the power typically is consumed. In the hardest-hit areas, including the provinces of Valle, Tolima, and Caldas, state distributors cannot pay generators and are on the brink of collapse. The government announced in early March 2001 that the country might soon face electricity rationing.

The current problems have delayed privatization in the sector, which had progressed throughout the late 1990s and was slated to see the sales of power generator Isagen and transmission company ISA in 2000. Analysts had predicted that the economic recovery of 2000 would lead to increased electricity demand, creating an attractive



environment for sales of these state assets. However, the increase in guerrilla attacks on the system has put privatization plans on hold.

*Sources for this report include: Argus LatAm Energy and Latin American Power Watch; CIA World Factbook; Dow Jones News wire service; Economist Intelligence Unit ViewsWire; Financial Times; Oil and Gas Journal; Oil Daily; Petroleum Economist; International Market Insight Reports; U.S. Energy Information Administration; WEFA Latin America Economic Outlook.*

## **COUNTRY OVERVIEW**

**President:** Andrés Pastrana (elected June 1998)

**Independence:** July 20, 1810 (from Spain)

**Population (2000E):** 39.7 million

**Location/Size:** NW South America/1.1 million square kilometers (440,000 square miles), about the size of New Mexico, Texas, and Louisiana combined

**Major Cities:** Bogotá (capital), Cali, Medellin, Barranquilla

**Language:** Spanish

**Ethnic Groups:** Mestizo (58%), White (20%), Mulatto (14%), Black (4%), Black-Amerindian (3%), Amerindian (1%)

**Religion:** Roman Catholic (90%)

**Defense (8/98):** Army (121,000); Navy (18,000); Air Force (7,300); Paramilitary Police (87,000)

## **ECONOMIC OVERVIEW**

**Minister of Finance:** Juan Manuel **Santos** Calderon

**Exchange Rate (3/20/01):** US\$1 = 2286.2 Colombian pesos

**Gross Domestic Product (GDP, nominal, 2000E):** \$83.8 billion

**Real GDP Growth Rate (2000E):** 3.1% **(2001F):** 4.0%

**Inflation Rate (consumer prices, 2000E):** 9.3% **(2001F):** 8.3%

**Unemployment Rate (2000E):** 19.8% **(2001F):** 18.0%

**Total Foreign Debt (2000E):** \$33 billion

**Current Account Balance (2000E):** -1.4% of GDP

**Major Trading Partners:** United States, Venezuela, Germany, Japan, Peru

**Major Exports:** Petroleum, coffee, coal

**Major Imports:** Capital goods, industrial inputs, consumer goods

## **ENERGY OVERVIEW**

**Minister of Mines and Energy:** Ramiro **Valencia** Cossio

**Proven Oil Reserves (1/1/01E):** 2.6 billion barrels

**Oil Production (2000E):** 700,600 barrels/day (bbl/d), of which 690,600 bbl/d was crude oil

**Oil Consumption (2000E):** 306,000 bbl/d

**Oil Exports to the U.S. (2000):** 332,000 bbl/d

**Crude Refining Capacity (1/1/01E):** 285,850 bbl/d

**Natural Gas Reserves (1/1/01E):** 6.9 trillion cubic feet

**Natural Gas Production (1999E):** 182.9 billion cubic feet (Bcf)

**Natural Gas Consumption (1999E):** 182.9 Bcf

**Recoverable Coal Reserves (1/1/97E):** 7.4 billion short tons

**Coal Production (1999E):** 36.2 million short tons (MMST)

**Coal Consumption (1999E):** 3.9 MMST

**Electric Generating Capacity (1/1/99E):** 12.8 gigawatts

**Net Electricity Generation (1999E):** 43.6 billion kilowatthours (including 33.2 billion kilowatthours hydroelectric)

## **ENVIRONMENTAL OVERVIEW**

**Minister of Environment:** Juan **Mayr** Maldonado

**Total Energy Consumption (1999E):** 1.2 quadrillion Btu (0.3% of world total energy consumption)

**Energy-Related Carbon Emissions (1999E):** 16.4 million metric tons of carbon (0.3% of world carbon emissions)

**Per Capita Energy Consumption (1999E):** 29.4 million Btu (vs. U.S. value of 355.8 million Btu)

**Per Capita Carbon Emissions (1999E):** 0.4 metric tons of carbon (vs. U.S. value of 5.5 metric tons of carbon)

**Energy Intensity (1999E):** 24,076 Btu/ \$1990 (vs. U.S. value of 12,638 Btu/ \$1990)\*\*

**Carbon Intensity (1999E):** 0.33 metric tons of carbon/thousand \$1990 (vs. U.S. value of 0.19 metric tons/thousand \$1990)\*\*

**Sectoral Share of Energy Consumption (1998E):** Residential (22.9%), Industrial (43.4%), Transportation



(26.3%), Commercial (7.4%)

**Sectoral Share of Carbon Emissions (1998E):** Transportation (42.0%), Industrial (40.4%), Commercial (5.2%), Residential (12.4%)

**Fuel Share of Energy Consumption (1999E):** Oil (49.2%), Natural Gas (14.0%), Coal (7.8%)

**Fuel Share of Carbon Emissions (1999E):** Oil (69.2%), Natural Gas (16.5%), Coal (14.3%)

**Renewable Energy Consumption (1998E):** 524 trillion Btu\* (0.5% decrease from 1997)

**Number of People per Motor Vehicle (1998):** 25 (vs. U.S. value of 1.3)

**Status in Climate Change Negotiations:** Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified March 22, 1995). Not a signatory to the Kyoto Protocol.

**Major Environmental Issues:** Deforestation; soil damage from overuse of pesticides; air pollution, especially in Bogota, from vehicle emissions

**Major International Environmental Agreements:** A party to the Antarctic Treaty, Biodiversity, Climate Change, Endangered Species, Hazardous Wastes, Marine Life Conservation, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83 and Tropical Timber 94. Has signed, but not ratified, the Antarctic-Environmental Protocol, Desertification, Law of the Sea and Marine Dumping

\* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.

## ENERGY INDUSTRY

**Organization:** *Oil:* Empresa Colombiana de Petroleos (Ecopetrol); *Natural gas:* Ecopetrol, Energy and Gas Regulatory Commission (CREG), Empresa Colombiana de Gas (Ecogas)

**Major Ports:** Barranquilla, Buenaventura, Cartagena, Leticia, Puerto Bolívar, San Andres, Santa Marta, Tumaca, Turbo

**Major Oil-Producing Fields:** Cusiana (BP Amoco); Cano Limón (Occidental)

**Major Oil Pipelines:** Oleoducto Central (Ocesa, from Cusiana/Cupiagua to Covenas); Cano Limón (to Covenas); Transandino (OTA, from Ecuador to Tumaco)

**Major Natural Gas Pipelines:** Mariquita-Cali (TransGas Occidente); Ballena-Barrancabermeja; Barrancabermeja-Neiva-Bogotá (Centro Oriente)

**Refineries (1/1/01E Capacity):** 285,850 bbl/d, all run by state-run Ecopetrol. Two main refineries, Barrancabermeja - Santander (205,000 bbl/d) and Cartagena - Bolívar (75,000 bbl/d). Other refineries: Tibu - N. de Santander (1,800 bbl/d), Orito - Putumayo (1,800 bbl/d), and Apiay (2,250 bbl/d).

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[U.S. State Department Background Notes, Colombia](#)

[U.S. State Department Country Commercial Guide, Colombia](#)

[Library of Congress Country Study on Colombia \(September 1987\)](#)

[U.S. Department of Commerce, U.S.-Colombian Trade](#)

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